

2.0 Assets and Liabilities

The Pennichuck utilities are conventionally regulated by the State of New Hampshire and, with a rate increase approved for Pennichuck Water Works this year, appear to have the financial capability to perform their water utility function in the absence of capital investments greater than their present level of investment. **Major expansion or upgrade of their physical facilities will require additional equity capital which may be difficult to obtain because of the potential dilution of the value of existing equity. The Pennichuck Corporation is paying out a large portion of its earnings in dividends that could be used to increase its equity.**

During the last decade of the 20th Century, federal law, expressed through various amendments to the Clean Drinking Water Act, significantly raised the quality standards for water being delivered to customers. Initially, new rules addressed correcting the problem of lead and copper leaching into excessively active water. At the same time, the U. S. Environmental Protection Agency began setting limits for the amounts of certain chemicals suspected of being carcinogens that could be present in drinking water. Many of these substances could be individually addressed in existing water treatment facilities but, increasingly, substantial upgrades to such facilities are being required and these upgrades are costly.

For many utilities, the mains and valves of water system expansions in the early 20th century are approaching the end of their useful lives. Replacing mains in downtown areas and crowded central city environments is difficult and expensive. All this work is in addition to supporting the additional water needs in areas of population growth.

The challenge of the 21st Century for water utilities will be to raise the capital needed to repair and improve drinking water systems. An estimate of the capital improvements needed over a 30 year period (2002 to 2032) is presented in Table 3-8.

2.1 Investor Versus Publicly Owned

Water utilities can be divided into those that are owned by public entities such as cities, towns and counties and those that are owned by private investors, known as investor-owned utilities (IOU's). Because of their ownership structures there are fundamental differences in the focus of each kind of utility.

2.1.1 The Regulated, Investor-owned Utility

Even though investor-owned water utilities are businesses that do not function in the same way as most other businesses in the United States, they still possess many of the attributes of for-profit entities. Investors choose to subject their capital to a regulatory environment in order to receive the benefits of a guaranteed opportunity to earn a return on investment. The regulatory environment influences the structure of utilities and the business decisions they make. (See Appendix B for a discussion of utility regulation.)

Focus

The objective of investor owned utilities is to provide the minimum acceptable levels of service at a maximum profit to the investors.

Forces that are both internal and external to the utilities define acceptability. For example, a prudent utility manager knows that water that looks bad and has poor taste will be a source of endless customer complaints and will move to do things that will avoid these issues. At the same time, the utility must comply with a host of laws and regulations that also address the same issues.

Investor owned utilities often perceive that the delivery of quality services is the least cost method of operating over extended periods of time. The responsibility of management is to maximize the wealth of the company's investors. **All other things being equal, the company's fiduciary responsibility is to its owners, not to its customers.**

2.1.2 The Publicly-owned Utility

Focus

The objective of publicly owned utilities is to provide acceptable levels of service at minimum cost.

Publicly owned utilities are subject to the same quality of service expectations as are investor owned utilities. **The critical difference is that the publicly owned utility responds, ultimately, to the elected representatives of the people it serves rather than to stockholders.** The responsible publicly owned utility will recognize that the long term least expensive operation requires continuous and systematic investment in its physical plant. **All other things being equal, the public utility will choose to either minimize rates to its customers or increase capital improvements.**

2.2 Sources of Capital Investing Funding

Funds for low levels of capital investment are typically taken from retained earnings for both investor owned and municipally owned utilities. Low level investment might include minor main extensions, minor relocations, tank painting and the like.

Publicly owned utilities will fund significant capital investments with money borrowed for that purpose. The length of the debt repayment will be matched to the expected useful life of the investment but seldom for more than 20-30 years. **Municipal debt is usually exempt from federal income tax and income tax of the state where issued, which means it pays a lower rate of interest. Both the principal and interest on municipal debt is paid off.**

Investor owned utilities fund significant capital investments with a combination of debt and equity. Equity can come from retaining earnings rather than paying them out in dividends or by selling additional shares of stock. Additional debt is typically corporate debt where the utility intends to retain a permanent (or embedded) level of debt paying annual interest and replacing the principal with new debt when it matures.

Both municipally and investor owned utilities also take advantage of loans from state and federal sources such as State Revolving Funds (SRF).

2.3 The Pennichuck Corporation

The Pennichuck Corporation (“Pennichuck”) is a holding company that owns five subsidiary companies as described in Section 1.2. Table 2.1 summarizes some financial statistics of Pennichuck for 2001 and showing the performance of its subsidiaries in 2001. Details of the balance sheets and income statements for the regulated utility subsidiaries are in found in Appendix C along with a similar breakdown by subsidiaries for 1999, a more “normal” year for Southwood.

The 2001 Net Income of Southwood is more than three times its historical amount reflecting a major sale of property that took place in 2001. A more typical net income would be in the range of \$400,000 to \$500,000 for a privately owned utility. Note that the net income as a percent of sales for the Service Corporation is higher than that of the regulated utilities.

Table 2-I
Selected 2001 Financial Data of the Pennichuck Corporation

| | Pennichuck Water Works | Pennichuck East Utilities | Pittsfield Aquaduct | Total Utility Businesses | Southwood Co. | Service Corporation | Total Non- Utility Businesses | Total Pennichuck Corporation |
|--------------------------------|---------------------------|------------------------------|------------------------|-----------------------------|---------------|------------------------|-------------------------------------|------------------------------------|
| Gross Revenue | 14,102,124 | 2,895,107 | 414,529 | 17,411,760 | 4,156,556 | 1,186,022 | 5,342,578 | 22,754,338 |
| Operating Expense | 10,104,729 | 1,974,508 | 329,540 | 12,408,777 | 912,094 | 881,325 | 1,793,419 | 14,202,196 |
| Net Operating Income | 3,997,395 | 920,599 | 84,989 | 5,002,983 | 3,244,462 | 304,697 | 3,549,159 | 8,552,142 |
| Gross Margin | 28% | 32% | 21% | 29% | | 26% | | |
| Other Income | 65,260 | 2,975 | | 68,235 | 152,917 | | 152,917 | 221,152 |
| Interest Expense | (1,569,727) | (282,155) | (62,144) | (1,914,026) | (66,900) | | (66,900) | (1,980,926) |
| Earnings Before Taxes (EBT) | 2,492,928 | 641,419 | 22,845 | 3,157,192 | 3,330,479 | 304,697 | 3,635,176 | 6,792,368 |
| Income Tax | 954,413 | 254,066 | 9,049 | 1,217,528 | 1,319,202 | 120,690 | 1,439,892 | 2,657,420 |
| Subsidiary Earnings | | | | | (523,244) | | (523,244) | (523,244) |
| Net Income | 1,538,515 | 387,353 | 13,796 | 1,939,664 | 1,488,033 | 184,007 | 1,672,040 | 3,611,704 |
| Dividends Paid Out | 1,731,129 | 71,385 | | 1,802,514 | | | | |
| Net Income as % Sales | | | | 11.1% | | 15.5% | 31.3% | 15.9% |

Note: The allocation of income taxes between Southwood and the Service Company is estimated.

2.4 Comparison of Pennichuck to Investor Owned Utilities

Pennichuck lies towards the smaller end in size of water utilities whose stock is publicly traded. In its annual report it compares its stock performance to that of a peer group of eleven other companies who are also primarily water utilities or water utility holding companies. Over a five-year period, Pennichuck's stock price has out-performed the peer group average. Table 2.2 compares data for the utilities in the peer group along with similar data from the Manchester (NH) Water Works, which is owned by the City of Manchester. The table uses data extracted from reports filed with the N. H. Public Utilities Commission for the three Pennichuck Utilities and for the Pennichuck Water Works (containing the Nashua core system).

The Net Plant is the original cost of plant less accumulated depreciation and is approximately the base used by regulators to establish rates.

Debt and equity are the amounts borrowed and the amounts of capital to which stockholders are entitled. As a general rule, utility regulators like water utilities to be 40-50% equity. Higher equity translates into higher rates but utilities with low equity have difficulty attracting lenders at favorable rates. New Hampshire likes to see about 45% equity. Philadelphia Suburban has a target of 50% equity for its subsidiaries. Pennichuck falls within this range.

Number of customers, net plant, water revenues and amounts of water sold can be used to compare water utilities. A customer is a single connection to a water system such as a house or building.

Water utilities are defined by their physical facilities. A typical utility will have an investment of \$1,500 to \$3,000 in depreciated physical plant (net plant) per customer. For the group compared, about \$4 of plant is required to generate \$1 of sales revenue annually.

Sales (revenues) per customer are typically \$400 to \$600 per customer per year. Of that amount, about half is the ordinary operating expenses. Net income is about \$75 per customer increasing with the size of the company reflecting the fact that unregulated subsidiaries are a larger part of the larger companies.

The average charge to the customer is calculated from sales in dollars divided by water sold. In general, the amount of long-term, consistent reinvestment in plant will determine the cost of water more than any other factor.

Table 2-2
Comparisons of Pennichuck Utilities to Peer Group Utilities

| | Birmingham (CT) Utilities | Pennichuck Water Works | Pennichuck Corp Utilities | Manchester (NH) Water Works | York (PA) Water Co. | Middlesex (NJ) | Artesian Recources (DE) | Connecticut Water |
|---------------------------|------------------------------|---------------------------|------------------------------|-----------------------------------|------------------------|-------------------|-------------------------------|----------------------|
| Number of Customers | 9,114 | 23,634 | 28,400 | 29,523 | 52,174 | 57,640 | 66,000 | 78,692 |
| Net Plant (\$M) | \$17.7 | \$59.7 | \$73.7 | \$64.3 | \$101.4 | \$154.3 | \$152.4 | \$187.0 |
| Long Term Debt (\$M) | \$4.1 | \$22.2 | \$27.2 | \$10.7 | \$32.7 | \$83.6 | \$49.8 | \$64.8 |
| Equity (\$M) | \$13.1 | \$18.9 | \$24.0 | N/A | \$32.0 | \$76.4 | \$34.2 | \$70.8 |
| Equity % Capitalization | 76% | 46% | 47% | N/A | 49% | 48% | 41% | 52% |
| Sales Revenue (\$M) | \$4.6 | \$13.6 | \$17.2 | \$9.8 | \$19.2 | \$45.0 | \$31.4 | \$45.4 |
| Water Sold (million gal.) | 1,280 | 4,974 | 5,389 | 6,346 | 5,852 | 15,782 | 6,900 | 7,259 |
| Depreciation (\$M) | \$0.5 | \$2.1 | \$2.7 | \$2.9 | \$1.3 | \$4.2 | \$3.0 | \$4.8 |
| Income Taxes (\$M) | \$0.2 | \$1.0 | \$1.2 | \$0.0 | \$1.1 | \$1.5 | \$2.2 | \$4.8 |
| Interest Expense (\$M) | \$0.5 | \$1.6 | \$1.9 | \$0.5 | \$3.0 | \$4.3 | \$4.6 | \$4.6 |
| Net Income (\$M) | \$0.5 | \$1.5 | \$1.9 | \$1.1 | \$4.0 | \$6.9 | \$3.3 | \$8.0 |
| EBITDA (\$M) | \$1.8 | \$6.1 | \$7.7 | \$4.6 | \$9.3 | \$16.9 | \$13.1 | \$22.2 |
| Net Plant/Sales | 3.8 | 4.4 | 4.3 | 6.5 | 5.3 | 3.4 | 4.9 | 4.1 |
| Net Plant/Net Profit | 34 | 39 | 38 | 58 | 25 | 22 | 46 | 23 |
| Net Plant/Customer | \$1,942 | \$2,526 | \$2,593 | \$2,177 | \$1,944 | \$2,677 | \$2,308 | \$2,376 |
| EBITDA/Customer | \$195 | \$259 | \$272 | \$154 | \$179 | \$293 | \$198 | \$283 |
| EBITDA % Sales | 38.4% | 45.2% | 44.9% | 46.3% | 48.5% | 37.6% | 41.8% | 49.0% |
| Avg. Charge/100 gallons | \$ 0.36 | \$ 0.27 | \$ 0.32 | \$ 0.15 | \$ 0.33 | \$ 0.29 | \$ 0.45 | \$ 0.63 |

2.5 Comparison of Pennichuck to Publicly Owned Utilities

In comparing an investor owned utility to a municipally owned utility the difference in focus must be recognized. The effective rate charged for water, the plant per customer and the useful life implied by the depreciation rate are indicators that should be examined.

The Manchester Water Works is a very good system with which to make benchmark comparisons for municipal water utilities. Manchester is an old system that has been characterized by a commitment to regular plant reinvestment. Much of this investment has been from operating revenues rather than from debt. Thus its total capitalization (debt plus equity) is only about 20% of Pennichuck, which has about the same number of customers.

As should be expected, the revenues required of each customer and the charge for a unit of water are lower in Manchester than in Pennichuck. Given two identical water utilities, a utility owned by a government will have lower revenue requirements than an investor owned utility because of interest rates, taxes and the need to earn and pay out earnings.

2.6 The Equity Challenge

Perhaps the most difficult challenge for the Board of Directors and senior management of a small water utility is raising additional equity capital while preserving the value of the existing equity.

The owner of a share of Pennichuck stock expects the stock to have a certain value in the market. This value should represent the value of the assets of the company plus some amount representing the expectation of future gains from dividends or an increase in the value of the total company. The investor does not want to see a decrease in the value of the stock, particularly not from some action taken by the company.

In round numbers, Pennichuck has a net income of about \$4 million from which to make interest payments on its debt and either pay dividends or reinvest in the company. Before the events of the summer of 2002, the stock price was typically about \$30 a share, which, with about 2,400,000 shares outstanding, meant the market valued Pennichuck at about \$72 million plus its outstanding debt of \$27 million or roughly \$100 million. The equity value of the Corporation, as recorded in its books, is about \$24 million.

Pennichuck, like most utilities using surface water as a raw water source, will be required to spend substantial sums for complying with new water

quality rules. **In Section 3.7 of this report we estimate approximately \$8.7 million will be required for water treatment plant upgrades over the next 5 years. If Pennichuck keeps its ratio of debt to equity at the level preferred by the N.H. Public Utilities Commission (which must approve any new debt issuance), the company will have to raise about \$7 million by selling new stock and borrowing \$8 million.**

This infusion of new stock increases the total shares outstanding while the income stream that supports them remains constant for the short term. This dilution can have a negative effect on the price of the stock even though income will rise after the \$8.7 million is spent and placed into rate base.

If the Pennichuck stockholders as represented by the Board of Directors are not inclined to tolerate a short term dilution effect, it is likely to be difficult for the Company to raise the funds required to comply with regulations.

2.7 Rate Comparisons

The rates charged for water depend on a variety of factors. Primarily the authority responsible for the system must ensure that the revenue covers the anticipated costs for operating and maintaining the system. A major item influencing the expenditures is associated with the labor for personnel to operate and maintain the system. Debt service, capital improvements and operational consumables (i.e. electricity and chemicals) are also important facets into the revenue stream.

Socioeconomic factors also concern the authority setting the rates. A delicate balance must be achieved to ensure that all ratepayers receive their apportionment of the cost of operating and maintaining the system. Rate structures vary significantly in smaller systems where these factors are more pronounced.

Smaller systems have an advantage in that rate setting generally occurs quickly. Shortfalls in revenue can be recovered more timely. For larger systems especially privately operated system, the public review of rate changes makes it more difficult to maintain this delicate balance. The larger system may find itself operating in arrears.

The magnitudes of capital improvement projects are the portion of the cash flow process that the authority has the most control. Delaying one capital project can postpone a rate increase.

Pennichuck is considered a large system. The rate structure for large system varies, but Table 2.3 outlines a simple approach to rate

comparison. The Table 2.3 indicates the cost for 100 gallons of water. This cost does not include minimum fees and is associated with a 5/8" residential meter and the most appropriate rate (whether flat or step rate). The table also includes the minimum charge. The minimum charge in some cases includes a portion of the water use. For example, the Portland (ME) Water District minimum monthly fee is \$7.00 includes the first 748 gallons of water.

Table 2-3 Water Rate Comparison

| | Water Rate (per 100 gallons) | Minimum Charge¹ | Average Monthly Bill² | Average Annual Cost |
|--|---|---------------------------------------|---|--------------------------------|
| Pennichuck Water Works | \$0.22 | \$10.54 | \$30.454 | \$368.76 |
| Manchester (In-Town) ³ | \$0.11 | \$7.60 | \$17.59 | \$212.70 |
| Manchester (Out-of-Town) ³ | \$0.12 | \$7.70 | \$18.89 | \$228.54 |
| Boston | \$0.33 | - | \$29.72 | \$361.58 |
| Portland (WD Members) ⁴ | \$0.24 | \$7.00 | \$26.42 | \$320.53 |
| Portland (WD Non-members) ⁴ | \$0.27 | \$8.05 | \$30.33 | \$368.07 |
| Springfield ⁵ | \$0.13 | \$15.00 | \$21.91 | \$144.93 |
| Worcester ⁶ | \$0.25 | \$4.50 | \$23.46 | \$279.56 |

- 1 Minimum charge per month/quarter or 5/8" meter rental.
- 2 Includes cost for family of 4 using 75 gallons per day, 9,000 gallons per month.
- 3 Rate for Manchester resident differ for in-town and out-of-town.
- 4 Minimum charge includes first 748 gallons used.
- 5 Minimum charge includes first 13,332 gallons used; prorated for monthly use.
- 6 Minimum charge includes first 1,496 gallons used.

Table 2.3 also includes the average cost of a month's water. This was based on family of four, using 75 gallons per person per day for a 30 day month. As can be seen in Table 2.3, the Pennichuck water was the most expensive of those surveyed. The rate is comparable to Non-members of the Portland Water District and the Boston Water and Sewer (which includes wholesale costs from the Massachusetts Water Resources Authority).

2.8 Comparison of Operation and Management of a Publicly Owned Utility

The operation and maintenance of a publicly owned water utilities varies greatly. A comparison of local publicly owned water utilities was performed for the following utilities:

- Springfield Water and Sewer Commission, Springfield, Massachusetts
- Worcester Water Department, Worcester, Massachusetts
- Massachusetts Water Resources Authority, Boston Massachusetts
- Manchester Board of Water and Sewer Commission, Manchester, New Hampshire

The following summarizes the characteristics of each of the four publicly owned utilities listed above.

Springfield Water and Sewer Commission services approximately 250,000 people with 660 miles of pipe in western Massachusetts. They are governed by a five member appointed Water and Sewer Board. The Board was created by a special act of the State Legislature and acts on behalf of the City of Springfield. They have the jurisdiction to set rates and enter into agreements/contracts. Rate setting is reviewed annually.

The Commission serves the City of Springfield and the Town of Ludlow. They also wholesale water to the communities of Agawam, East Longmeadow and Longmeadow. They are responsible for all activities for the retail customer. For the wholesale customer, the Commission responsibility ends at the metered connection.

Worcester Water Department services approximately 150,000 people in central Massachusetts. They are governed by a Department of Public Works that reports to the City Council. The DPW must develop and present proposed rate changes to the City Council. Rate setting is reviewed annually.

The Department serves the City of Worcester and the Towns of Paxton and Holden. They are responsible for all activities with the water system from dam maintenance, treatment plant operation to service and main repairs.

Massachusetts Water Resources Authority (Authority) services approximately 2,500,000 people in coastal Massachusetts. They are governed by a multi-member appointed Board. The Board was created by

a special act of the State Legislature. They have the jurisdiction to set rates and enter into agreements/contracts. Rate setting is reviewed annually.

The Authority serves water to 43 communities including the City of Boston. They are wholesale water purveyors to these communities. They are responsible for pipe within their distribution system but their responsibility ends at the metered community connection.

Manchester Board of Water and Sewer Commission services approximately 140,000 people with 470 miles of pipe in the greater Manchester area. They are governed by a seven member appointed Water and Sewer Board. The Board was created by a special act of the State Legislature and acts on behalf of the City of Manchester. They have the jurisdiction to set rates and enter into agreements/contracts. Rate setting is reviewed annually.

The Commission serves the City of Manchester and portions of Auburn, Bedford, Derry, Goffstown, Hooksett and Londonderry. They are responsible for all activities for their customers from watershed maintenance to main repairs.